

Unitika UNILATE® 1 SC PET

Category : Polymer , Thermoplastic , Polyester, TP , Polyethylene Terephthalate (PET)

Material Notes:

Antistatic grade UNILATE® products are plate materials prepared by using a polyethylene terephthalate (PET resin) as the main component, blending it with glass staple fiber, inorganic filler, and others, and extruding the composite resins into plates, and laminating and heat-pressing the plates. UNILATE plates and boards are superior in heat resistance, withstand voltage, strength, and processability to the plates and boards of thermoplastic resins such as nylon, polyacetal, and others. The UNILATE plates and boards are greatly improved in water-absorbing property, electrical properties, and processability, compared to other thermosetting resin laminated sheets used in electric insulation applications. Information provided by Unitika Ltd.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Unitika-UNILATE-1-SC-PET.php

Physical Properties	Metric	English	Comments
Density	1.60 g/cc	0.0578 lb/in ³	ASTM D792
Water Absorption	0.30 %	0.30 %	ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	110	110	ASTM D785
Tensile Strength at Break	56.0 MPa	8120 psi	Horizontal; ASTM D570
	95.0 MPa	13800 psi	Vertical; ASTM D570
Elongation at Break	2.3 %	2.3 %	Horizontal; ASTM D570
	2.6 %	2.6 %	Vertical; ASTM D570
Flexural Strength	120 MPa	17400 psi	Horizontal; ASTM D790
	205 MPa	29700 psi	Vertical; ASTM D790
Flexural Modulus	5.50 GPa	798 ksi	Horizontal; ASTM D790
	9.50 GPa	1380 ksi	Vertical; ASTM D790
Izod Impact, Unnotched	0.640 J/cm	1.20 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	46.0 µm/m-°C	25.6 µin/in-°F	Vertical; ASTM D696
	@Temperature 25.0 - 100 °C	@Temperature 77.0 - 212 °F	
	106 µm/m-°C	58.9 µin/in-°F	

Thermal Properties	@Temperature 25.0 - Metric 100 °C	@Temperature 77.0 - English 212 °F	Horizontal: ASTM D696 Comments
Thermal Conductivity	0.350 W/m-K	2.43 BTU-in/hr-ft ² -°F	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	235 °C	455 °F	ASTM D648
Flammability, UL94	HB	HB	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+10 - 1.00e+13 ohm-cm	1.00e+10 - 1.00e+13 ohm-cm	ASTM D257
Surface Resistance	1.00e+10 - 1.00e+13 ohm	1.00e+10 - 1.00e+13 ohm	ASTM D257
Insulation Resistance	2.30e+14 ohm	2.30e+14 ohm	ASTM D257
Dielectric Constant	3.7	3.7	ASTM D150
Dielectric Strength	35.0 kV/mm	889 kV/in	Under ambient atmosphere; ASTM D149
	35.0 kV/mm	889 kV/in	After water absorption; ASTM D149
Arc Resistance	83 sec	83 sec	
Comparative Tracking Index	200 V	200 V	IEC 112

Descriptive Properties	Value	Comments
Appearance	Opaque	

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